

POWER NOTEBOOKS

INTRODUCTION

Notebook PCs take up little room and let you work on the move, so you may be tempted to buy one instead of a desktop PC as your main computer. But if it will spend most of its time in your home or office, there's really no point in buying a light ultra-portable notebook.

Desktop-replacement notebooks are designed to be compact substitutes for a desktop PC. They have more powerful components, such as higher-resolution screens, larger hard disks and faster graphics cards, than you'll find in smaller notebooks.

But despite the impressive specifications, there's no need to pay a fortune for a desktop replacement. We've gathered six machines that cost around £1,000 or less. Whether you want to play the latest games, manipulate high-resolution images or edit high-definition video, we'll help you find the right notebook for your needs.

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ABSOLUTE POWER

With a desktop-replacement notebook you can finally get that huge PC tower out from under your feet and still enjoy the power of a proper PC. We test six



Choosing a... Power Notebook

For around £1,000 you can get a desktop-replacement notebook packed with the latest technology, but a big budget is no guarantee of a quality notebook. Our buying guide will help you to consider your options before you part with your cash.

A SIGHT TO BEHOLD

You can't upgrade a notebook's display, so it's essential that you buy one with a suitable screen. Acer's Aspire has a huge 20.1in screen with a resolution of 1,680x1,050 pixels. The other notebooks have glossy 17in widescreen displays with resolutions of 1,440x900 pixels. Both types work well if you use multiple applications with many open windows, edit panoramic photos or work on spreadsheets with lots of columns.

If you need to attach an external monitor or TV to your notebook, check the table on page 90 to see which video outputs each notebook provides. If you want to connect your notebook to a high-definition TV, look for a model with an HDMI port, which carries the audio and video data over a single cable. To connect a standard-definition TV, you'll need a notebook with an S-video port or a seven-pin TV-out port, which can connect to either an S-video, composite or component socket on your TV through an adaptor cable.

Notebooks should have either an analogue D-sub or digital DVI port to connect to an external monitor. A monitor with a D-sub port can connect to a DVI port if you buy a £10 adaptor. Similarly, you can plug a DVI-equipped monitor into an HDMI port with a suitable adaptor cable.

PLAYTIME

You can't upgrade a notebook's graphics chip, so before you buy, you should think about whether you'll want to play 3D games. All the notebooks in the group have dedicated 3D graphics chips. Acer's Aspire and Hi-Grade's Ultinote have older GeForce Go 7600 and Radeon X1600 graphics. These are fast in current DirectX 9 games but are not DirectX 10-compatible, so won't be able to display the latest DirectX 10 graphical effects. There are hardly any DirectX 10 games available, however. The other notebooks have DirectX 10-compatible cards but were slower than the Aspire and Ultinote in our 3D tests.

Three of the notebooks in this month's Labs have integrated hybrid TV tuners that enable you to watch and record analogue or digital TV broadcasts. Only Acer's Aspire and Sony's Vaio come with a remote control, and only the Aspire includes a portable aerial.



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ROOM TO SPARE

You should also consider how much hard disk space you need. There's not much point in faithfully recording all the episodes of your favourite TV shows if your notebook's hard disk is too small to accommodate them along with your programs and documents. Three of the notebooks in this month's group have roomy 200GB hard disks, while one has a slightly less spacious 160GB disk. Acer's Aspire has a smaller-than-average 120GB disk, but PC Nextday's Zoostorm has a huge 250GB disk.

POWER MAD

All the notebooks in the group have Intel Core 2 Duo processors and are capable of handling most Windows tasks, although the Acer Aspire's T5500 and the Toshiba Satellite's T5450 chips aren't as quick as the others for demanding jobs such as video editing. PC Nextday's Zoostorm did especially well in our benchmarks thanks to its new Core 2 X7800 processor.

Having plenty of memory is essential if you need to use several applications at once or you want to perform memory-intensive tasks such as image editing. Most of the notebooks in this month's Labs come with 2GB of RAM, although the Aspire has a miserly 1GB. The Zoostorm is equipped with a very generous 4GB, although you'd need to upgrade to a 64-bit version of Windows Vista to take advantage of it all.

WEIGHT OF THE WORLD

None of the six notebooks on test is slim or light enough for regular portable use. Acer's weighs a back-breaking 7.2kg, which is impractical even for occasional mobile use. The Zoostorm is light for a 17in notebook at just over 3kg.

While they're not designed for travel, desktop-replacements should last at least two hours in our light-use battery test. Acer's Aspire and Sony's Vaio are the only notebooks in the group that failed to reach this figure.

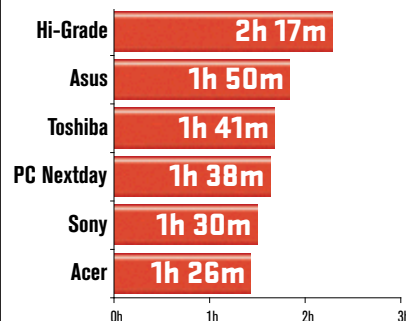
All this month's notebooks have ExpressCard/54 slots for adding peripherals such as TV tuners and eSATA adaptors. The Aspire and Vaio notebooks also have CardBus slots, ExpressCard's predecessor. This is useful as there are still more CardBus than ExpressCard devices available, although this is slowly changing.

THE SOUND AND THE FURY

A notebook's integrated speakers will never sound as good as a quality external 2.1 set, but some are so bad as to be unusable for anything other than Windows's alert sounds. Notebook speakers should be reasonably loud and sound clear and balanced without distorting at high volumes. Toshiba's Satellite has the best speakers in this group, while Hi-Grade's Ultinote has the worst. Apart from the Ultinote, all the notebooks on test have an optical S/PDIF port for connecting a surround-sound amplifier.

Battery life

If you need to keep the kids entertained on long car journeys, or your other half is hogging the TV, it's useful to have a notebook that can play DVDs. We ran a test to see how long each notebook's battery lasted while playing a DVD with the volume turned up. None lasted long enough to finish an instalment of *The Lord of the Rings* without recharging. The Toshiba Satellite, Sony Vaio and PC Nextday Zoostorm notebooks lasted just long enough for a couple of 45-minute TV programmes, while Asus's A7S and Hi-Grade's Ultinote should be able to last through a 100-minute film.





TOSHIBA Satellite P200-17C

★★★★★

£799 inc VAT



Toshiba's Satellite P200-17C is cheaper than the other notebooks here, but still compares favourably with its more expensive rivals.

FEATURES

Unlike three of the other notebooks on test, the Satellite doesn't have an integrated TV tuner, although you could add one to one of its six USB ports. It has the best speakers in the group, though. They produce balanced sound with no distortion at high volume.

The keyboard is a pleasure to use, with keys that are well spaced, responsive and provide the right amount of feedback. The full numeric keypad makes entering data in a spreadsheet fast. An L-shaped hinge makes the display sit lower than a normal notebook's, which is useful for working in cramped conditions, although the screen wobbles more than others.

We were less impressed with the display's quality. Colours were bright, but white areas looked grey and the backlight was uneven. There was also banding and speckling in our colour and greyscale transition tests.

PERFORMANCE

Despite its 2GB of RAM, the Satellite was one of the slowest notebooks here. The 1.66GHz Core 2 Duo T5450 processor couldn't keep up with the faster chips in the other notebooks, and its score of 134 in our application benchmarks put it second from bottom.

The Satellite's Radeon HD2400 graphics card managed less than 8fps in our Call of Duty 2 test, so it can't run the latest games. The Satellite fared better in our light-usage battery test, lasting two hours and 36 minutes, which is the second-longest in the group.

VERDICT

The Satellite P200-17C isn't as powerful as the other notebooks in the group, and it doesn't have a TV tuner. But it is significantly cheaper than the rest and has an excellent keyboard, high-quality speakers and good battery life.

SUMMARY

- ☒ Inexpensive
- ☒ Good keyboard, speakers and battery life
- ☒ Disappointing performance; no TV tuner

DESKTOP-REPLACEMENT NOTEBOOK Intel Core 2 Duo T5450, 2GB RAM, 200GB disk, ATI Mobility Radeon HD2400 graphics, DVD+/-RW +/-DL, 17in widescreen LCD, 3.5kg
PART CODE PSPB6E-03G02TEN
SUPPLIER www.johnlewis.com
DETAILS <http://uk.computers.toshiba-europe.com>



ACER Aspire 9813WKMi

★★★★

£909 inc VAT

Acer's Aspire has the largest screen here, but it's heavy and has a stingy specification.

FEATURES

The Aspire's 20.1in widescreen display is the largest we've ever seen on a notebook. Its resolution of 1,680x1,050 pixels provides a spacious Windows desktop. It's evenly lit with bright colours and wide viewing angles. It's the best display in the group, although it isn't perfect. White areas looked greyish and our colour and greyscale transition tests were marred by speckling and banding.

Sadly, the Aspire isn't very portable. It's the largest notebook we've ever seen – around the size of a briefcase – and weighs over 7kg. One advantage of its size is that there's room for a full numeric keypad for fast data entry.

Although it has a built-in hybrid TV tuner, the 120GB hard disk is too small to hold all your programs, documents and a sizeable library of TV shows. Despite the notebook's size, the TV tuner uses a mini-RF connector, so you'll need to use the included adaptor to connect an aerial. Serial and parallel ports are included for older peripherals, but extra USB ports would have been more useful.

PERFORMANCE

The Aspire may be the biggest notebook in the group, but it isn't the fastest in Windows. With just 1GB of RAM and the group's slowest Core 2 Duo processor, it came last in our application benchmarks with a score of 123.

It did better in our 3D test with 17.2fps, although you'll have to settle for less-detailed graphics to get the highest frame rates in the latest games. The Aspire lasted for less than two hours in our light usage battery test, but is too big for regular use on the move.

VERDICT

The Aspire has a large, good-quality display but is too big and heavy for mobile use, while its poor Windows performance and small hard disk make it a poor substitute for a desktop PC.

SUMMARY

- ☒ Quality high-resolution display
- ☒ Very large and heavy
- ☒ Small hard disk

DESKTOP-REPLACEMENT NOTEBOOK Intel Core 2 Duo T5500, 1GB RAM, 120GB disk, Nvidia GeForce Go 7600 graphics, DVD+/-RW +/-DL, 20.1in widescreen LCD, 7.2kg
PART CODE LX.AF60X.046
SUPPLIER www.laptopsdirect.co.uk
DETAILS www.acer.co.uk



SONY Vaio VGN-AR41M

★★★★★

£960 inc VAT

Sony's Vaio is the most stylish notebook in the group, but it's not particularly powerful.

FEATURES

The Vaio has a built-in hybrid TV tuner with an S-video input, which lets you record video from sources such as VCRs. There's also a full-size RF socket so you don't need an adaptor to connect a TV aerial.

The notebook's 17in widescreen display is almost painfully bright, but some colours, such as flesh tones, look oversaturated. Backlighting is slightly uneven at the edges of the display and white areas have a grey tinge. The greyscale transition test looked smooth, but there was banding in our colour gradient test.

Typing on the keyboard's well-spaced keys is comfortable, but they don't provide as much feedback as the Satellite's. The touch pad is small but accurate. The generous software bundle includes Adobe's Premiere Elements and Photoshop Elements.

Although the Vaio feels sturdy, the lid is held shut by a single latch, which doesn't feel very secure. At least when the notebook is open the catch folds out of the way so it won't catch loose clothing. We weren't impressed with the integrated speakers, which sound muddy and distort at high volume.

PERFORMANCE

The Vaio isn't the slowest notebook in the group, coming mid-table in our 2D tests with an overall score of 150. Three of the notebooks in the group are faster, though, so the Vaio isn't for you if you need the best performance.

It's not very fast in games either, managing just 14fps in Call of Duty 2, so you'll have to lower the resolution and detail settings to get a smooth frame rate. The Vaio also has the shortest battery life at one hour 48 minutes.

VERDICT

Sony's Vaio VGN-AR has a generous software bundle and a large selection of ports, but Asus's A7S is faster and has longer battery life.

SUMMARY

- ☒ Generous software bundle
- ☒ S-video input
- ☒ Disappointing battery life

DESKTOP-REPLACEMENT NOTEBOOK Intel Core 2 Duo T7100, 2GB RAM, 200GB disk, Nvidia GeForce 8400M GT graphics, DVD+/-RW +/-DL, 17in widescreen LCD, 3.7kg
PART CODE VGNAR41M.CEK
SUPPLIER www.laptopsdirect.co.uk
DETAILS <http://vaio.sony.co.uk>



HI-GRADE Ultinote A9900R



£999 inc VAT

Hi-Grade's Ultinote is fast in Windows and games but is blighted by a poor display.

FEATURES

The Ultinote's screen is disappointing. Images look gloomy and unevenly lit, while white areas have a yellowish tint. Colour accuracy shifts noticeably with the slightest change in viewing angle, and it's grainy. It's one of the worst notebook displays we've seen.

We were also disappointed by the speakers, which sound harsh and offer little stereo separation. The Ultinote uses a lower-quality Realtek AC'97 sound chipset than the other notebooks, all of which have high-quality HD audio chips. The keys feel springy, which can make extensive periods of typing uncomfortable. The touch pad is large and accurate, however, with responsive buttons.

The Ultinote's 160GB hard disk is the second smallest in the group, but it's not as cramped as the Aspire's 120GB disk. No TV tuner is included, so unless you add one or already have a substantial media library, the disk should be spacious enough for your needs.

PERFORMANCE

We were more impressed with the Ultinote's performance in our 2D and 3D benchmarks. It was one of the fastest notebooks in our 2D benchmarks. It came joint-first in our multiple applications benchmark with 177 and was only a few points behind Asus's A7S in the others.

The Ultinote also managed the highest score in our Call of Duty 2 test with just under 21fps, although you'll still have to tweak the graphics settings in the latest games to get the smoothest frame rates. At 3.9kg, the Ultinote isn't very portable, but it has the longest battery life in the group. It lasted two hours and 40 minutes in our light usage test.

VERDICT

Hi-Grade's Ultinote has good battery life and is fast in both Windows and games. Its terrible display makes it hard to recommend, however.

SUMMARY

- ✓ Fast in Windows and games
- ✓ Good battery life
- ✗ Poor display and speakers; no TV tuner

DESKTOP-REPLACEMENT NOTEBOOK Intel Core 2 Duo T7400, 2GB RAM, 160GB disk, ATI Mobility Radeon X1600 graphics, DVD+/-RW +/-DL, 17in widescreen LCD, 3.9kg
PART CODE A9900R
SUPPLIER www.higrade.com
DETAILS www.higrade.com



PC NEXTDAY Zoostorm 85-6713



£999 inc VAT

The Zoostorm has an incredible specification but isn't well-equipped for entertainment.

FEATURES

The Zoostorm's keyboard is similar in size and layout to the Asus A7S's, but it feels spongier, which can make typing especially tiring. It also has a numeric keypad for easy data entry, but the large Enter key occupies the zero key's usual position, which could trip up touch typists. The touch pad is small but accurate.

The Zoostorm's 250GB hard disk rivals the size of an average desktop PC's. As the disk could hold a substantial media library, it's a shame the notebook has no TV tuner.

While the Zoostorm's display isn't as poor as the Ultinote's, we'd expect better at this price. The backlighting is noticeably darker at the top of the screen. White areas look dim and images and movies are grainy, although not as coarse as on the Ultinote's display.

PERFORMANCE

The Zoostorm is the first notebook we've seen with Intel's latest Core 2 Extreme processor, the X7800. It also has an impressive 4GB of RAM, although due to a limitation in how 32-bit versions of Windows deal with memory, only 3GB is available for use. Nevertheless, it's easily one of the fastest notebooks we've seen, achieving amazing scores of 276 and 215 in our video-encoding and image-editing tests.

The Zoostorm wasn't quite as impressive in our battery and 3D tests. It lasted just over two hours in our light usage test. Its GeForce 8600M GS graphics chip managed just under 14fps in our Call of Duty 2 test, so it's not well suited for playing the latest games with detailed graphics settings enabled.

VERDICT

The Zoostorm 85-6713 has an impressive specification, but unless you need the best possible Windows performance, Toshiba's Satellite or Asus's A7S are better value.

SUMMARY

- ✓ Fast in Windows
- ✓ Plenty of RAM and hard disk space
- ✗ Disappointing display; no TV tuner

DESKTOP-REPLACEMENT NOTEBOOK Intel Core 2 Extreme X7800, 4GB RAM, 250GB disk, Nvidia GeForce 8600M GS graphics, DVD+/-RW +/-DL, 17in widescreen LCD, 3.1kg
PART CODE Zoostorm 85-6713
SUPPLIER PC Nextday
DETAILS www.pcnextday.co.uk



ASUS A7S-7S015C



£1,000 inc VAT



Asus's A7S-7S015C isn't powerful enough to cope with the latest games, but it's an otherwise capable notebook.

FEATURES

The A7S's widescreen 17in display looks bright but the backlight is a little uneven. White areas have a blue tinge and we saw some banding in our greyscale and colour transition tests. It's fine for watching films but not ideal for viewing photos or image editing.

The keyboard is similar in size and layout to the Zoostorm's. It's comfortable to type on, although not as responsive as the Satellite's. The spacious touch pad is accurate but the buttons register clicks only when pressed in certain places. Thankfully, a USB mouse is included. The notebook has built-in Bluetooth, so you can connect to a mobile phone.

The A7S has a built-in hybrid TV tuner, but no remote control. If the 200GB hard disk isn't spacious enough to hold all your data, the A7S has an eSATA port for attaching super-fast eSATA external hard disks. You'll also want a set of external speakers: the built-in speakers sound clear and undistorted, but also tinny.

PERFORMANCE

The A7S was the second-fastest notebook in the group in our 2D benchmarks with a score of 175. Only the Zoostorm was faster, so the A7S should be able to handle all but the toughest computing tasks. It's the second-heaviest notebook in the group at 4kg, but its battery life of two hours and 22 minutes is one of the longest and is enough for short trips.

The A7S isn't suitable for games. Its 128MB GeForce 8400M G graphics chip managed only 8.2fps in our Call of Duty 2 test, which was the second-slowest in the group.

VERDICT

Asus's A7S has fast Windows performance and decent battery life. Unless you want to play games, it's the best notebook in the group.

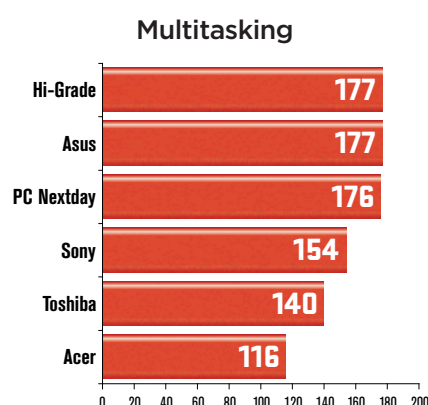
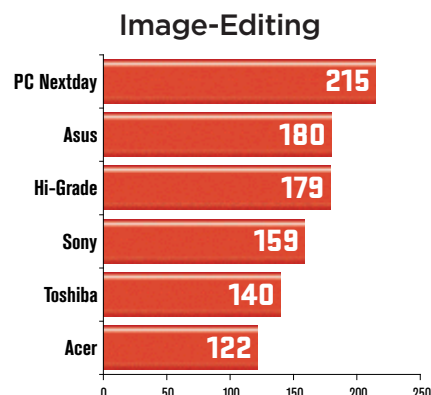
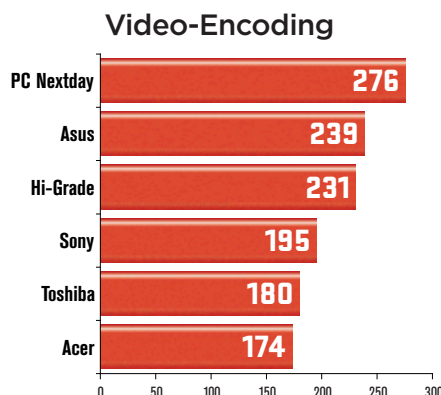
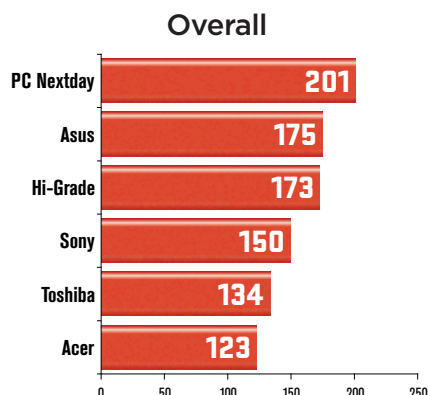
SUMMARY

- ✓ Fast in Windows
- ✓ Respectable battery life
- ✗ Disappointing 3D performance

DESKTOP-REPLACEMENT NOTEBOOK Intel Core 2 Duo T7500, 2GB RAM, 200GB disk, Nvidia GeForce 8400M G graphics, DVD+/-RW +/-DL, 17in widescreen LCD, 4kg
PART CODE A7S-7S015C
SUPPLIER www.lambda-tek.com
DETAILS <http://uk.asus.com>

BENCHMARKS

2D Performance Shopper application tests



Computer Shopper's 2D benchmarks are designed to show how PCs stand up to the toughest tasks Windows can throw at them. Today's PCs have no problem running office applications such as Word and Excel, so we have chosen to focus our tests on areas where you could experience difficulties.

There are four scripts. Encoding a video to MPEG2 format is an extremely processor-intensive task that anyone interested in transferring home videos to DVD will have to tackle. Our image-editing test simulates a session of photo enhancement using Paint Shop Pro X, culminating with the composition of a panorama from a set of snaps. In our third test, a set of audio files is ripped to MP3 format. Finally, the multitasking benchmark

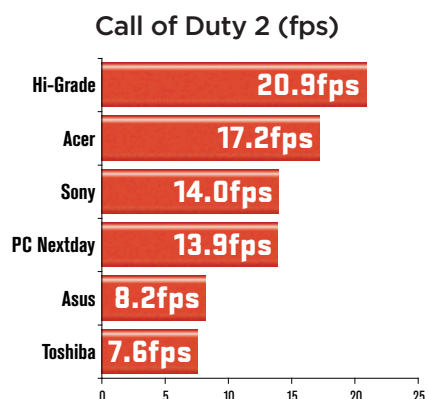


SETTINGS We run our application tests at the notebook's native resolution in 32-bit colour
WEB www.computershopper.co.uk

tests the real-life benefits of Hyper-Threaded and dual-core processors. This test compresses a DVD for playback on a Pocket PC at the same time as running our image-editing test.

Figures are relative to a reference Evesham Athlon 64 3500+, which scores 100 in all tests.

3D Performance Call of Duty 2

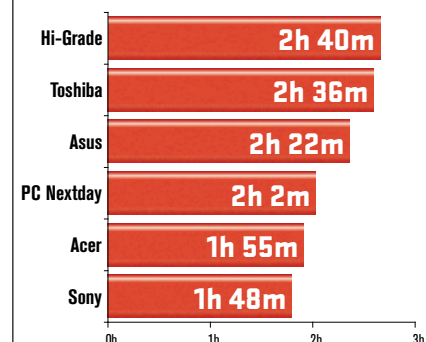


SETTINGS
 1,024x768
 resolution, high
 quality, 4x AA
WEB www.futuremark.com

Call of Duty 2 uses DirectX and is one of the most demanding games available. With a wide range of effects and frenetic action, it tests every aspect of graphics performance.

A good score here indicates that a PC should cope with any graphically intense 3D game coming on to the market today.

Battery life Run time



Our battery test involves light browser use with the display at its middle brightness setting.

Labs verdict Power Notebooks

This month's Labs was particularly difficult to judge as all the notebooks have desirable features. Acer's Aspire has a good-quality, high-resolution screen but it's not very portable and was the slowest notebook in our Windows benchmarks. Hi-Grade's Ultinote was consistently fast in both our 2D and 3D benchmarks and has good battery life, but is let down by its poor-quality display. PC Nextday's Zoostorm is a powerful notebook with an impressive specification, but its screen is disappointing.

Toshiba's Satellite has the most comfortable keyboard and touch pad of all the notebooks in the group, plus reasonable battery life and good-quality speakers. It's not particularly fast and lacks a TV tuner, but at the low price of £800 these faults can be forgiven. It's a bargain and wins our Budget Buy award.

Asus's A7S isn't suitable for playing the latest games, but it's quick in Windows, has an integrated TV tuner and respectable battery life. It strikes the right balance between features and power and wins our Best Buy award.





MANUFACTURER	TOSHIBA	ACER	SONY	HI-GRADE	PC NEXTDAY	ASUS
Model	Satellite P200-17C	Aspire 9813WKM	Vaio VGN-AR41M	Ultinote A9900R	Zoostorm 85-6713	A7S-7S015C
Rating	★★★★★	★★★	★★★★	★★★	★★★★	★★★★★
Processor	Intel Core 2 Duo T5450	Intel Core 2 Duo T5500	Intel Core 2 Duo T7100	Intel Core 2 Duo T7400	Intel Core 2 Extreme X7800	Intel Core 2 Duo T7500
Speed	1.66GHz	1.66GHz	1.8GHz	2.16GHz	2.6GHz	2.2GHz
Memory installed	2GB	1GB	2GB	2GB	4GB	2GB
Memory slots (free)	2 (0)	2 (1)	2 (0)	2 (0)	2 (0)	2 (0)
Max memory	4GB	2GB	2GB	2GB	4GB	2GB
BIOS	Toshiba	Acer	Phoenix	AMI	Phoenix	AMI
Dimensions (HxWxD)	46x400x290mm	65x483x390mm	55x423x305mm	50x420x289mm	40x395x275mm	44x405x315mm
Weight	3.5kg	7.2kg	3.7kg	3.9kg	3.1kg	4.0kg
Sound	Realtek HD Audio	Realtek HD Audio	SigmaTel HD Audio	Realtek AC'97	Intel HD Audio	Intel HD Audio
Pointing device	Touch pad	Touch pad	Touch pad	Touch pad	Touch pad	Touch pad
DISPLAY						
Screen size	17in widescreen LCD	20.1in widescreen LCD	17in widescreen LCD	17in widescreen LCD	17in widescreen LCD	17in widescreen LCD
Graphics adaptor	ATI Mobility Radeon HD2400	Nvidia GeForce Go 7600	Nvidia GeForce 8400M GT	ATI Mobility Radeon X1600	Nvidia GeForce 8600M GS	Nvidia GeForce 8400M G
Graphics outputs	HDMI, D-sub, S-video	D-sub, DVI, TV out	HDMI, D-sub, S-video	D-sub, S-video	HDMI, DVI	HDMI, D-sub, TV out
Graphics memory	128MB dedicated	256MB dedicated	128MB dedicated	256MB dedicated	256MB dedicated	128MB dedicated
Native resolution	1,440x900	1,680x1,050	1,440x900	1,440x900	1,440x900	1,440x900
STORAGE						
Hard disk (available)	200GB (185GB)	120GB (102GB)	200GB (176GB)	160GB (148GB)	250GB (232GB)	200GB (179GB)
Optical drive	DVD+/-RW +/-DL	DVD+/-RW +/-DL	DVD+/-RW -DL	DVD+/-RW +/-DL	DVD+/-RW +/-DL	DVD+/-RW +/-DL
Optical drive speeds	TSST TS-L632D (8X DVD+R, 8X DVD-R, 8X DVD+RW, 6X DVD-RW, 6X DVD+R DL, 6X DVD-R DL, 24X CD-R, 24X CD-RW, 8X DVD-ROM, 24X CD-ROM)	Matshita UJ-85JS (8X DVD+R, 8X DVD-R, 8X DVD+RW, 6X DVD-RW, 4X DVD+R DL, 4X DVD-R DL, 5X DVD-RAM, 24X CD-R, 16X CD-RW, 8X DVD-ROM, 24X CD-ROM)	Matshita UJ-850S (8X DVD+R, 8X DVD-R, 6X DVD+RW, 6X DVD-RW, 2.4X DVD+R DL, 24X CD-R, 10X CD-RW, 8X DVD-ROM, 24X CD-ROM)	TSST SN-S082D (8X DVD+R, 8X DVD-R, 8X DVD+RW, 6X DVD-RW, 6X DVD+R DL, 4X DVD-R DL, 5X DVD-RAM, 24X CD-R, 24X CD-RW, 8X DVD-ROM, 24X CD-ROM)	TSST SN-S082H (8X DVD+R, 8X DVD-R, 8X DVD+RW, 6X DVD-RW, 6X DVD+R DL, 4X DVD-R DL, 5X DVD-RAM, 24X CD-R, 24X CD-RW, 8X DVD-ROM, 24X CD-ROM)	LG GSA-T20N (8X DVD+R, 8X DVD-R, 8X DVD+RW, 6X DVD-RW, 4X DVD+R DL, 4X DVD-R DL, 5X DVD-RAM, 24X CD-R, 24X CD-RW, 8X DVD-ROM, 24X CD-ROM)
PORTS AND EXPANSION						
USB2 ports	6	4	3	4	4	4
FireWire	1	1	1	1	0	1
Infrared port	No	Yes	No	No	No	Yes
Bluetooth	No	Yes	No	No	No	Yes
Networking	10/100, 802.11a/b/g	10/100/1,000, 802.11a/b/g	10/100/1,000, 802.11a/b/g	10/100/1,000, 802.11a/b/g	10/100, 802.11b/g	10/100/1,000, 802.11n
PC Card slots	1x ExpressCard/54	1x ExpressCard/54, 1x CardBus	1x ExpressCard/54, 1x CardBus	1x ExpressCard/54	1x ExpressCard/54	1x ExpressCard/54
Modem	Yes	Yes	Yes	Yes	Yes	Yes
Legacy ports	None	Serial, parallel	None	None	None	None
Memory card reader	Secure Digital, MultiMedia Card, Memory Stick Pro, xD	Secure Digital, MultiMedia Card, Memory Stick Pro, xD	Secure Digital, MultiMedia Card, Memory Stick Pro	Secure Digital, MultiMedia Card, Memory Stick Pro	Secure Digital, MultiMedia Card, Memory Stick Pro	Secure Digital, MultiMedia Card, Memory Stick Pro, xD
Other ports	Optical S/PDIF output	Mini RF, optical S/PDIF output	S-video input, AV mini-jack input, optical S/PDIF output, RF	None	Optical S/PDIF output	1x eSATA, mini RF, optical S/PDIF output
MISCELLANEOUS						
Carrying case	No	No	No	Yes	No	No
Direct CD control	No	No	No	No	No	No
Operating system	Windows Vista Home Premium	Windows Vista Home Premium	Windows Vista Home Premium	Windows Vista Home Premium	Windows Vista Home Premium	Windows Vista Home Premium
Operating system restore option	Restore disc	Restore partition	Restore partition	Restore partition, restore disc	Restore partition	Restore partition
Software included	InterVideo WinDVD, InterVideo WinDVD Creator 2 Platinum, Norton Internet Security 2007, Toshiba Disc Creator 2.0.0.8	None	Adobe Acrobat Standard 8.0, Adobe Premiere Elements 3.0, Adobe Photoshop Elements 5.0, InterVideo WinDVD for VAIO 8.0, Roxio Easy Media Creator 9, Sony Click to DVD 2.6, Sony SonicStageCP 4.2, Sony SonicStage Mastering Studio 2.3	Ahead Nero Essentials 7, OpenOffice 2.1	Ahead Nero Essentials 7	None
Other standard accessories	Integrated 1.3-megapixel webcam	Remote control, Bluetooth VoIP phone, integrated hybrid TV tuner, portable DVB-T antenna, mini RF adaptor, component and S-video adaptor, integrated 1.3-megapixel webcam	Integrated 1.3-megapixel webcam, remote control, integrated hybrid TV tuner	None	Integrated 1.3-megapixel webcam	Integrated 1.3-megapixel webcam, integrated hybrid TV tuner, USB mouse, composite video adaptor
Optional extras (incVAT)	None	None	None	Battery £111	None	None
BUYING INFORMATION						
Company founded	Notebook division 1985	1979	1946	1986	1993	1989
Employees	Not disclosed	6,000	162,000	70	75	68
Tech support staff	Not disclosed	150+	40	8	20	12
Tech support times	8am-6pm Mon-Fri	9am-6pm Mon-Fri	8.30am-6pm Mon-Fri	9am-5.30pm Mon-Fri	9am-6pm Mon-Fri	8.30am-5.30pm Mon-Fri
Parts and labour warranty	One year collect and return	One year collect and return	One year RTB	Two years collect and return (includes accidental damage)	One year RTB	Two years collect and return
Price incVAT	£799	£909	£960	£999	£999	£1,000
Price exVAT	£681	£774	£817	£850	£850	£851
Details	http://uk.computers.toshiba-europe.com	www.acer.co.uk	http://vaio.sony.co.uk	www.higrade.com	www.pcnextday.co.uk	http://uk.asus.com
Supplier	www.johnlewis.com	www.laptopsdirect.co.uk	www.laptopsdirect.co.uk	www.higrade.com	www.pcnextday.co.uk	www.laptopsdirect.co.uk
Part number	PSP86E-03G02TEN	LX.AF60X.046	VGNAR41M.CEK	A9900R	Zoostorm 85-6713	A7S-7S015C